

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

ON SEMICONDUCTOR CORP. and )  
SEMICONDUCTOR COMPONENTS )  
INDUSTRIES, L.L.C., )

Plaintiffs, )

v. )

SAMSUNG ELECTRONICS CO., LTD., )  
SAMSUNG ELECTRONICS AMERICA, INC., )  
SAMSUNG TELECOMMUNICATIONS )  
AMERICA GENERAL, L.L.C., )  
SAMSUNG SEMICONDUCTOR, INC., and )  
SAMSUNG AUSTIN SEMICONDUCTOR L.L.C., )

Defendants. )

C.A. No. 07-449 (JJF)

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SAMSUNG ELECTRONICS CO., LTD., )  
SAMSUNG ELECTRONICS AMERICA, INC., )  
SAMSUNG TELECOMMUNICATIONS )  
AMERICA GENERAL, L.L.C., )  
SAMSUNG SEMICONDUCTOR, INC., and )  
SAMSUNG AUSTIN SEMICONDUCTOR L.L.C., )

Plaintiffs, )

v. )

ON SEMICONDUCTOR CORP. and )  
SEMICONDUCTOR COMPONENTS )  
INDUSTRIES, L.L.C., )

Defendants. )

C.A. No. 06-720 (JJF)

**FINAL JOINT CLAIM CONSTRUCTION CHARTS**

Pursuant to the Scheduling Order entered by the Court on October 5, 2007 (D.I. 47 (C.A. No. 07-449-JJF)), and as amended on March 24, 2008 (D.I. 86 (C.A. No. 07-449-JJF); D.I. 113 (C.A. No. 06-720-JJF)), ON Semiconductor Corp. and Semiconductor Components Industries, L.L.C. (collectively “ON Semiconductor”) and Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America General, L.L.C.,

Samsung Semiconductor, Inc., and Samsung Austin Semiconductor L.L.C. (collectively “Samsung”) hereby submit their Final Joint Claim Construction Charts.

**I. STIPULATED CONSTRUCTIONS.**

During the meet and confer process, the parties agreed on the constructions set forth in Exhibit A.

**II. CLAIM TERMS REQUIRING CONSTRUCTION BY THE COURT.**

The parties’ Joint Claim Construction Charts for U.S. Patent No. 5,000,827 (the “’827 Patent”), U.S. Patent No. 5,361,001 (the “’001 Patent”), U.S. Patent No. 5,563,594 (the “’594 Patent”), U.S. Patent 6,362,644 (the “’644 Patent”) and U.S. Patent No. 5,252,177 (the “’177 Patent”) are attached hereto as Exhibits B, C, D, E and F, respectively. Each chart identifies the first occurrence of disputed claim terms in each patent, the parties’ proposed constructions for the disputed claim terms, and the parties’ identification of the intrinsic and/or extrinsic evidence supporting its proposed construction.

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**EXHIBIT A**

**ON Semiconductor Corp. v. Samsung Electronics Co., Ltd.**  
**(Case No. 07-449-JJF)**

**Samsung Electronics Co., Ltd., v. ON Semiconductor Corp.**  
**(Case No. 06-720-JJF)**

**STIPULATED CONSTRUCTIONS**

U.S. Patent No. 5,000,827

First appearing in Claim 1:

- ***flow rate***: “a measure of volume flowing per unit of time”

U.S. Patent No. 5,361,001

First appearing in Claim 4:

- ***latching***: “holding data in a ready position or condition”

U.S. Patent No. 6,362,644

First appearing in Claim 12

- ***semiconductor package***: “package, such as an enclosure, for a semiconductor device”

**EXHIBIT B**

**ON Semiconductor Corp. v. Samsung Electronics Co., Ltd.**  
**(Case No. 07-449-JJF)**

**Samsung Electronics Co., Ltd., v. ON Semiconductor Corp.**  
**(Case No. 06-720-JJF)**

**Disputed Terms from U.S. Patent No. 5,000,827**

| Asserted Claims   | ON Semi Proposed Constructions  | Samsung Proposed Constructions   | ON Semiconductor’s Support   | Samsung’s Support  |
|---|---|--|--|--|
| 1. A method of forming metallized bumps on predetermined terminal areas of a planar substrate, said bumps being of substantially uniform height across said substrate, wherein said method comprises: | <p><i>metallized bumps</i>: ON Semiconductor notes that this term appears only in the preamble of the asserted claim. Because this term does not recite limitations or give life, meaning, and vitality to the claim, no construction is needed. If the Court is inclined to construe this term, however, ON Semiconductor contends that it should be construed as follows:</p> <p>“the non-planar accumulation of a metal layer or layers”</p> | <p><i>metallized bump</i>: “A small mound formed of metal on a semiconductor pad that is utilized as a contact for face down bonding.” The preamble is a limitation.</p> | <p>’827 Patent: col. 1:9-13, 1:15-18, 1:30-37, 1:50-52, 1:53-60, 2:29-35, 2:36-41, 5:46-49, and related Figures.</p> <p>C R M Grovenor, <i>Microelectronic Materials</i> 367-68 (B. Cantor ed., 1998).</p> <p>Stephen Beeby et al., <i>MEMS Mechanical Sensors</i> 33-34 (2004).</p> <p>Nasser Kanani, <i>Electroplating: Basic Principles, Processes and Practice</i> 4-5 (2004).</p> <p>Jack Arabian, <i>Computer Integrated Electronics Manufacturing and Testing</i> 486</p> | <p>’827 Patent, Abstract, Figs. 3C, 4, Col. 1:9-13; 1:15-18; 1:30-37; 1:50-52; 3:31-48; 3:63-65; 4:1-3; 4:20-24; 4:28-30; 5:46-49</p> <p>’827 Patent Prosecution History, 5/24/90 Office Action at 3; Response to Office Action dated 7/23/90, at pp. 2-5</p> <p>Japanese Kokai Patent HEI 1-198,017</p> <p>Japanese Kokai Patent 123,089</p> <p>Japanese Kokai Patent SHO 53-28039</p> <p>U.S. Patent No. 4,906,341</p> |

| Asserted Claims | ON Semi Proposed Constructions  | Samsung Proposed Constructions  | ON Semiconductor's Support   | Samsung's Support  |
|-----------------|---|---|--|--|
|                 |   |   | <p>(1989).</p> <p>Fred W. Kear, <i>Printed Circuit Assembly Manufacturing</i> 35-38 (1987).</p> <p>Frank Porter, <i>Zinc Handbook: Properties, Processing, and Use in Design</i> 520-21 (1991).</p>                      | <p>U.S. Patent No. 4,855,251</p> <p>U.S. Patent No. 4,263,606</p> <p>Modern Dictionary of Electronics, 6th Ed. (1984), at p. 121 ("bump")</p> <p>Dictionary of Electronic Packaging, Microelectronic, &amp; Interconnection Terms (1990), at pp. 16 ("bump," "bumped chips"), 85 ("metallization")</p> <p>See generally regarding electrodeposition, <i>Electroplating and Electrorefining of Metals</i>, Alexander Watt, Arnold Philip (2005, originally published in 1902)</p> |
|                 | <p><b><i>said bumps being of substantially uniform height across said substrate:</i></b> ON Semiconductor notes that this phrase appears only in the preamble of the asserted claim. Because this term does not recite limitations or give life, meaning, and vitality to the claim, no construction is needed. However, if the Court is inclined to construe</p> | <p><b><i>said bumps being of substantially uniform height across said substrate:</i></b> "Small mounds of metal utilized as contacts having substantially the same height above the semiconductor pad on which they are formed across the wafer." The preamble is a limitation.</p> | <p>'827 Patent: col. 5:50-59, 5:60-6:3, and related Figures.</p> <p><i>Merriam-Webster's Collegiate Dictionary</i> 1287 (10th ed. 2001).</p> <p><i>The American Heritage Dictionary</i> 1321 (2nd College ed. 1985).</p> | <p>'827 Patent, Abstract, Figs. 3C, 4, 6 (prior art), 9, 10, Col. 1:9-13; 2:18-23; 2:28-41; 2:67-68; 3:1-8; 3:9-13; 3:31-48; 4:4-6; 4:14-16; 4:17-19; 4:20-24; 4:28-30; 5:31-42; 5:50-6:9</p> <p>'827 Patent Prosecution History, Response to Office Action dated 7/23/90, at p. 3</p> <p>Japanese Kokai Patent HEI 1-</p>   |

| Asserted Claims  | ON Semi Proposed Constructions   | Samsung Proposed Constructions  | ON Semiconductor's Support  | Samsung's Support   |
|--|--|---|---|---|
|  | <p>this, ON Semiconductor contends that the phrase can be understood with the following construction:</p> <p><b>bumps:</b> (separately construed below);</p> <p><b>substantially uniform height:</b> (separately construed below).</p> |   |   | <p>198017</p> <p>Japanese Kokai Patent SHO 53-28039</p> <p>U.S. Patent No. 3,855,083</p> <p>U.S. Patent No. 4,170,959</p> <p>See also support for “metallized bump”</p> |
|  | <b>said bumps:</b> see “metallized bumps”  | <b>bumps:</b> see proposed construction for “metallized bump”   | See “metallized bumps.”   | see support for “metallized bump”   |
|  | <b>substantially uniform height:</b> “approximately the same distance between the top of the bump and the top surface of the substrate.”   | <b>substantially uniform height:</b> see proposed construction for “said bumps being of substantially uniform height across said substrate” | See “said bumps being of substantially uniform height across said substrate.” | see support for “said bumps being of substantially uniform height across said substrate”  |
| <p>(a) providing a planar substrate having thereon a multiplicity of terminal areas;</p> <p>(b) applying an electrical potential having a first electrical polarity to said terminal areas;</p> <p>(c) applying an electrical potential having a second electrical polarity to an electrical terminal immersed in a container of an electroplating solution;</p> | N/A  | N/A   | N/A   | N/A   |

| Asserted Claims   | ON Semi Proposed Constructions  | Samsung Proposed Constructions  | ON Semiconductor's Support   | Samsung's Support  |
|---|---|---|--|--|
| <p>(d) exposing said substrate to said electroplating solution to permit the growth of said metallization bumps on said terminal areas;</p> <p>(e) controlling the growth of said metallization bumps in a predetermined region of said substrate by altering the metallic ion concentration of said electroplating solution in said predetermined region;</p> <p>(f) providing said container with an opening whose shape approximates that of said substrate;</p> <p>(g) positioning said substrate proximate to said container opening;</p> <p>(h) providing an inlet within said container for pumping said solution into said container, said solution exiting said container through said opening; wherein said metallic ion concentration of said electroplating solution is changed by:</p> |   |   |  |  |
| <p>(k) in step (h) altering the flow rate of said solution through said opening.</p>  | <p><b><i>altering the flow rate of said solution through said opening:</i></b> “changing the volume of electroplating solution per unit of time flowing out of the opening.”</p> <p><b><i>flow rate:</i></b> (separately construed in Exhibit A).</p> | <p><b><i>altering the flow rate of said solution through said opening:</i></b> “Changing the volume of electroplating solution per unit of time through the opening of the solution container during the formation of the metallic bumps to control their growth in a predetermined region of</p> | <p>'827 Patent: col. 4:65-68, 5:18-30, 5:43-45, and related Figures.</p> | <p>'827 Patent, Abstract, Figs. 7, 11, Col. 2:42-47; 2:59-62; 3:1-8; 3:31-48; 4:7-10; 4:20-24; 4:38-41; 4:65-68; 5:1-11; claim 1</p> <p>'827 Patent Prosecution History, 5/24/90 Office Action at 3; Response to Office Action dated 7/23/90, at pp. 2-6</p> <p>Japanese Kokai Patent HEI 1-</p> |



| Asserted Claims  | ON Semi Proposed Constructions | Samsung Proposed Constructions | ON Semiconductor's Support | Samsung's Support  |
|--|--------------------------------|--------------------------------|----------------------------|--|
|  |                                | the substrate.”                |                            | 198,017<br><br>Japanese Kokai Patent 123,089<br><br>Japanese Kokai Patent 242,797<br><br>Japanese Kokai Patent SHO 53-28039<br><br>Webster's Ninth New Collegiate Dictionary (1988), at p. 75 (“alter”)<br><br>Webster's Third New International Dictionary (1986), at p. 63 (“alter”) |
| 2. The method of according to claim 1, wherein said metallization bumps comprise metal selected from the group consisting of silver and tin. | N/A                            | N/A                            | N/A                        | N/A  |

**EXHIBIT C**

**ON Semiconductor Corp. v. Samsung Electronics Co., Ltd.**  
**(Case No. 07-449-JJF)**

**Samsung Electronics Co., Ltd., v. ON Semiconductor Corp.**  
**(Case No. 06-720-JJF)**

**Disputed Terms from U.S. Patent No. 5,361,001**

| Asserted Claims  | ON Semi Proposed Constructions   | Samsung Proposed Constructions   | ON Semiconductor’s Support  | Samsung’s Support  |
|--|--|--|---|--|
| 4. A method of analog trimming, comprising the steps of: | <p><b><i>analog trimming:</i></b> ON Semiconductor notes that this term appears only in the preamble of the asserted claim. Because this term does not recite limitations or give life, meaning, and vitality to the claim, no construction is needed. If the Court is inclined to construe this term, however, ON Semiconductor contends that it should be construed as follows:</p> <p>“modifying an analog value or quantity”</p> | <p><b><i>analog trimming:</i></b> “Making a fine adjustment of capacitance, inductance, or resistance of an analog circuit component.” The preamble is a limitation.</p> | <p>’001 Patent: Abstract, col. 1:6-2:5, 2:15- 4:51, Figs. 1, 2.</p> <p>Response to Office Action dated 6/27/94, pp. 2-4.</p> <p>Eduard Sackinger and Walter Guggenbuhl, <i>An Analog Trimming Circuit Based on a Floating-Gate Device</i>, IEEE J. of Solid State Circuits, vol. SC-23. no. 6, Dec. 1988, at 1437-40.</p> <p>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> 39-40 (1984).</p> <p><i>Merriam-Webster’s Collegiate Dictionary</i> 41 (10th ed. 2001).</p> <p><i>See e.g. American Heritage Dictionary</i> 106, 1295 (2nd College</p> | <p>’001 Patent, Abstract, Col. 1:6-26; 1:39-43; 1:57-61; 2:8-9; 2:15-19; 2:42-45; 2:63-68; 3:1-21</p> <p>Dictionary of Electronic Packaging, Microelectronic, &amp; Interconnection Terms (1990), at p. 140 (“trimming”)</p> <p>Academic Press Dictionary of Science and Technology (1992), at p. 2265 (“trim”)</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at p. 554 (“trimming”)</p> <p>The Illustrated Dictionary of Electronics 6th Ed. (1994), at p. 650 (“trim,” “trimmer”)</p> <p>McGraw-Hill Dictionary of</p> |

| Asserted Claims   | ON Semi Proposed Constructions  | Samsung Proposed Constructions   | ON Semiconductor's Support   | Samsung's Support   |
|---|---|--|--|---|
|   |   |  | ed. 1985).   | Scientific and Technical Terms 5th Ed. (1994), at pp. 2070-71 ("trim," "trimmer capacitor")   |
| enabling conduction through a passive element in response to a first state of a control signal; | <b>control signal:</b> "an electrical effect that conveys information about regulation or guidance" | <b>control signal:</b> "A signal that enables or disables conduction through an associated passive element of a trim circuit." | <p>'001 Patent: Abstract, col. 1:11-13, 2:24-62, 3:22-4:17, 4:43-47, Figs. 1, 2</p> <p>Response to Office Action dated 6/27/94, pp. 2-4.</p> <p>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> 917-20 (1984).</p> <p><i>IEEE Standard Dictionary of Electrical and Electronics Terms</i> 133-39 (1977).</p> <p><i>Merriam-Webster's Collegiate Dictionary</i> 252 (10th ed. 2001).</p> <p><i>American Heritage Dictionary</i> 319, 1139 (2nd College ed. 1985).</p> | <p>'001 Patent, Abstract, Col. 2:10-11; 2:28-42; 2:46-49; 2:57-59; 3:24-27; 3:33-35; 3:40-43; 3:57-60; 4:3-6</p> <p>Dictionary of Electronic Packaging, Microelectronic, &amp; Interconnection Terms (1990), at p. 121 ("signal")</p> <p>Academic Press Dictionary of Science and Technology (1992), at p. 514 ("control signal")</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at pp. 114 ("control signal," "control circuit"), 484 ("signal")</p> <p>The Illustrated Dictionary of Electronics 6th Ed. (1994), at p. 589 ("signal")</p> <p>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at pp. 454 ("control signal"), 1823 ("signal")</p> |
| disabling conduction through said passive   | N/A   | N/A  | N/A  | N/A   |

| Asserted Claims   | ON Semi Proposed Constructions  | Samsung Proposed Constructions                             | ON Semiconductor's Support  | Samsung's Support  |
|---|---|--|---|--|
| element in response to a second state of said control signal; activating said control signal in response to a data signal to enable and disable said conduction through said passive element, said activating step including the steps (a) latching said data signal, and (b) logically combining said data signal with a logic signal for providing said control signal; and |   |  |   |  |
| setting said control signal to a fixed value after removal of said data signal.   | <b><i>fixed value:</i></b> “a state that is not fluctuating or varying during a specified or predetermined time or condition” | <b><i>fixed value:</i></b> “A value that does not change.” | '001 Patent: Abstract, col. 4:14-17, claim 5, Figs. 1, 2.<br><br>Response to Office Action dated 6/27/94, pgs. 2-4.<br><br>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> , 380-81 (1984).<br><br><i>IEEE Standard Dictionary of Electrical and Electronics Terms</i> 258-59 (1977). | see support for “setting said control signal to a fixed value” |
|   | <b><i>setting said control signal to a</i></b>  | <b><i>setting said control signal to a</i></b>             | <i>See</i> “fixed value” and “control   | '001 Patent, Abstract, Col. 1:6-10;                            |

| Asserted Claims | ON Semi Proposed Constructions   | Samsung Proposed Constructions   | ON Semiconductor's Support | Samsung's Support   |
|-----------------|--|--|----------------------------|---|
|                 | <p><b><i>fixed value:</i></b> The Court need not construe this, however, if the Court is inclined to construe this, ON Semiconductor contends that the phrase can be understood with the following constructions:</p> <p><b><i>fixed value:</i></b> (separately construed above);</p> <p><b><i>control signal:</i></b> (separately construed above);</p> | <p><b><i>fixed value:</i></b> “Permanently setting the state of the control signal.”</p> | <p>signal.”</p>            | <p>1:26-29; 1:48-56; 1:61-2:2; 2:3-5; 3:45-54; 3:66-4:2; 4:7-17; 4:18-30; 4:35-47; 4:49-51; claim 5</p> <p>Academic Press Dictionary of Science and Technology (1992), at p. 1964 (“set”)</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at p. 479 (“set”)</p> <p>The Illustrated Dictionary of Electronics 6th Ed. (1994), at p. 584 (“set”)</p> <p>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at p. 1801 (“set”)</p> |

**EXHIBIT D**

**ON Semiconductor Corp. v. Samsung Electronics Co., Ltd.**  
**(Case No. 07-449-JJF)**

**Samsung Electronics Co., Ltd., v. ON Semiconductor Corp.**  
**(Case No. 06-720-JJF)**

**Disputed Terms from U.S. Patent No. 5,563,594**

| Asserted Claims  | ON Semi Proposed Constructions   | Samsung Proposed Constructions   | ON Semiconductor’s Support | Samsung’s Support  |
|--|--|--|----------------------------|--|
| 8. A data conversion circuit, comprising:  | N/A  | N/A  | N/A                        | N/A  |
| a register having an input coupled for receiving parallel input data and having an output; | <p><i><b>a register having an input coupled for receiving parallel input data and having an output:</b></i></p> <p>It is ON Semiconductor’s position that the Court need not construe this entire phrase. Instead, ON Semiconductor believes that the phrase can be understood according to the plain and ordinary meaning of its constituent terms or words.</p> <p>If the Court is inclined to construe this phrase, ON Semiconductor contends that it can be understood simply by construing the following terms:</p> | <p><i><b>a register having an input coupled for receiving parallel input data and having an output:</b></i></p> <p>“A storage circuit that receives each bit of the input data simultaneously over several input lines.”</p> | <p>See “register.”</p>     | <p>’594 Patent, Abstract, Col. 1:7-22; 1:25-27; 1:36-45; 1:57-59; 2:6-15; 2:26-29; 3:3-12; 3:18-29; 4:15-17; 5:38-44; claim 14</p> <p>Academic Press Dictionary of Science and Technology (1992), at pp. 586 (“data”), 1571 (“parallel input/output”), 1824 (“register,” “register circuit”)</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at pp. 132 (“data”), 382 (“parallel,” “parallel input/output”), 448 (“register”)</p> <p>The Illustrated Dictionary of</p> |

| Asserted Claims | ON Semi Proposed Constructions   | Samsung Proposed Constructions  | ON Semiconductor's Support  | Samsung's Support  |
|-----------------|--|---|---|--|
|                 | <p><b>register:</b> (separately construed below).</p> <p><b>coupled:</b> (separately construed below).</p> |   |   | <p>Electronics 6th Ed. (1994), at pp. 156-57 (“data”), 480-81 (“parallel,” “parallel output”), 554 (“register”)</p> <p>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at pp. 517 (“data”), 1443-45 (“parallel,” “parallel input/output,” “parallel transmission”), 1678 (“register”)</p> |
|                 | <p><b>register:</b> “a device capable of retaining or storing information.”</p>                            | <p><b>register:</b> see proposed construction for “a register having an input coupled for receiving parallel input data and having an output”</p> | <p>’594 Patent: Abstract, col. 1:7-60, 2:7-6:28, Figs. 1, 3.</p> <p>Response to Office Action dated 2/22/96, p. 2.</p> <p>Donald L. Schilling, <i>Electronic Circuits, Discrete, and Integrated</i> 648-56 (1979).</p> <p>Nicholas L. Pappas, <i>Digital Design</i> 411-17 (1994).</p> <p>M. Morris Mano, <i>Digital Logic and Computer Design</i> 289-94 (1979).</p> <p>Edward J. McCluskey, <i>Logic Design Principles</i> 303 (1986).</p> <p>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i>, 843-44 (1984).</p> | <p>see support for “a register having an input coupled for receiving parallel input data and having an output”</p>   |

| Asserted Claims  | ON Semi Proposed Constructions  | Samsung Proposed Constructions  | ON Semiconductor's Support  | Samsung's Support   |
|--|---|---|---|---|
|  |   |   | <p><i>IEEE Standard Dictionary of Electrical and Electronics Terms</i> 575-76 (1977).</p> <p>John Markus, <i>McGraw-Hill Electronics Dictionary</i> 448 (1994).</p>   |   |
|  | <b><i>coupled</i></b> : “linked together”   | <b><i>coupled</i></b> : The meaning of this term requires no construction. To the extent a construction is necessary, the term should be construed as “directly connected.”   | <p>'594 Patent: col. 3:31-65, Figs. 1, 3.</p> <p>Response to Office Action dated 2/22/96, p. 2.</p> <p>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> 208-09 (1984).</p> <p><i>IEEE Standard Dictionary of Electrical and Electronics Terms</i> 146-48 (1977).</p> <p>John Markus, <i>McGraw-Hill Electronics Dictionary</i> 119 (1994).</p> |   |
| a multiplexer having an input coupled to said output of said register for providing serial data; | <p><b><i>a multiplexer having an input coupled to said output of said register for providing serial data:</i></b></p> <p>The Court need not construe this, however, if the Court is inclined to construe this, ON Semiconductor contends that the phrase can be understood with the following construction:</p> | <p><b><i>a multiplexer having an input coupled to said output of said register for providing serial data:</i></b></p> <p>“A circuit that sequentially transmits the parallel input data from the register one bit at a time over a single output line.”</p> | <p>See “multiplexer.”</p>   | <p>'594 Patent, Abstract, Col. 2:15-18; 2:29-31; 4:24-27</p> <p>Dictionary of Electronic Packaging, Microelectronic, &amp; Interconnection Terms (1990), at p. 91 (“multiplexer”)</p> <p>Academic Press Dictionary of Science and Technology (1992), at</p> |



| Asserted Claims | ON Semi Proposed Constructions   | Samsung Proposed Constructions   | ON Semiconductor's Support   | Samsung's Support  |
|-----------------|--|--|--|--|
|                 | <i>multiplexer</i> (separately construed below).   |  |  | <p>pp. 586 (“data”), 1426 (“multiplexer”), 1960 (“serial,” “serial data,” “serial input/output”)</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at pp.132 (“data”), 352-53 (“multiplexer”), 478 (“serial,” “serial input/output,” “serial transfer”)</p> <p>The Illustrated Dictionary of Electronics 6th Ed. (1994), at pp. 156-57 (“data”), 433 (“multiplexer”), 581-82 (“serial,” “serial transfer”)</p> <p>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at pp. 517 (“data”), 1309 (“multiplexer”), 1797-98 (“serial,” “serial input/output,” “serial transfer”)</p> |
|                 | <i>multiplexer</i> : “a device capable of manipulating multiple streams of digital information.” | <i>multiplexer</i> : see proposed construction for “a multiplexer having an input coupled to said output of said register for providing serial data” | <p>’594 Patent: Abstract, col. 1:11-18, 2:14-17, 4:25-28, 5:35-41, Figs. 1, 3.</p> <p>Response to Office Action dated 2/22/96, p. 2.</p> <p>Nicholas L. Pappas, <i>Digital Design</i> 231-46 (1994).</p> | see support for “a multiplexer having an input coupled to said output of said register for providing serial data”  |

| Asserted Claims  | ON Semi Proposed Constructions   | Samsung Proposed Constructions   | ON Semiconductor's Support   | Samsung's Support  |
|--|--|--|--|--|
|  |  |  | <p>M. Morris Mano, <i>Digital Logic and Computer Design</i> 175-82 (1979).</p> <p>Edward J. McCluskey, <i>Logic Design Principles</i> 507-10 (1986).</p> <p>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i>, 648-49 (1984).</p> <p>Alfred W. Barber, <i>Practical Guide To Digital Integrated Circuits</i> 94-95 (1984).</p> <p><i>IEEE Standard Dictionary of Electrical and Electronics Terms</i>, 430-31 (1977).</p> <p>Markus, John, <i>McGraw-Hill Electronics Dictionary</i>, 352-53 (1994).</p> |  |
| a comparator having first and second inputs and an output, said first input receiving a first control signal, said second input receiving a second control signal, said output providing a compare signal having a first state when said first and second control signals match; and | <b>comparator:</b> “an electronic device that receives input from two or more sources and provides an output responsive to a comparison of the inputs” | <b>comparator:</b> “A device whose output signal depends on the result of comparing two data items.” | <p>'594 Patent: col. 3:31-49, 4:1-10, 4:32-45, Figs. 1-3.</p> <p>Response to Office Action dated 2/22/96, p. 2.</p> <p>Donald L. Schilling, <i>Electronic Circuits, Discrete, and Integrated</i> 586-87 (1979).</p> <p>Nicholas L. Pappas, <i>Digital Design</i> 255-56 (1994).</p>  | <p>'594 Patent, Col. 3:30-43; 3:66-4:4; 4:27-30; 4:31-34; 4:39-42; claims 1, 5, 7, 12</p> <p>'594 Prosecution History, Response and Amendment to Office Action dated 2/2/1996, at pp. 1-3</p> <p>Academic Press Dictionary of Science and Technology (1992), at pp. 479 (“comparator,” “comparator circuit”), 1323</p> |

| Asserted Claims | ON Semi Proposed Constructions   | Samsung Proposed Constructions  | ON Semiconductor's Support   | Samsung's Support  |
|-----------------|--|---|--|--|
|                 |  |   | <p>Mano, M. Morris, <i>Digital Logic and Computer Design</i> 164-67 (1979).</p> <p>Adel S. Sedra, <i>Microelectronic Circuits</i> 231-42 (2nd ed. 1987).</p> <p>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> 183 (1984).</p> <p><i>IEEE Standard Dictionary of Electrical and Electronics Terms</i> 118 (1977).</p> <p>John Markus, <i>McGraw-Hill Electronics Dictionary</i> 105 (1994).</p>             | <p>("match")</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at p. 105 ("comparator," "comparison")</p> <p>The Illustrated Dictionary of Electronics 6th Ed. (1994), at p. 127 ("comparator")</p> <p>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at p. 418 ("comparator," "comparator circuit")</p>   |
|                 | <p><b>control signal:</b> "an electrical effect that conveys information about regulation or guidance"</p> | <p><b>control signal:</b> "A signal for controlling the phase of the transfer data signal."</p> | <p>'594 Patent: Abstract, col. 1:7-10, 2:15-19, 2:67-3:2, 3:24-30, 6:6-12, 6:15-28, 6:35-37, Figs. 1-3.</p> <p>Response to Office Action dated 2/22/96, p. 2.</p> <p>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> 917-20 (1984).</p> <p><i>IEEE Standard Dictionary of Electrical and Electronics Terms</i> 133-39 (1977).</p> <p><i>Merriam-Webster's Collegiate Dictionary</i> 252 (10th ed. 2001).</p> | <p>'594 Patent, Abstract, Col. 1:7-10; 2:38-60; 2:62-64; 2:67-3:2; 3:13-18; 3:18-29; 3:30-43; 3:66-4:4; 4:16-21; 4:27-30; 4:31-34; 4:39-42; 6:6-7; 6:15-24; 6:35-37; claims 1, 5, 7</p> <p>'594 Prosecution History, Response and Amendment to Office Action dated 2/2/1996, at pp. 1-3</p> <p>Dictionary of Electronic Packaging, Microelectronic, &amp; Interconnection Terms (1990), at p. 121 ("signal")</p> <p>Academic Press Dictionary of</p> |

| Asserted Claims | ON Semi Proposed Constructions   | Samsung Proposed Constructions   | ON Semiconductor's Support                | Samsung's Support   |
|-----------------|--|--|---|---|
|                 |  |  |   | <p>Science and Technology (1992), at p. 514 ("control signal")</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at pp.114 ("control circuit", "control signal"), 484 ("signal")</p> <p>The Illustrated Dictionary of Electronics 6th Ed. (1994), at p. 589 ("signal")</p> <p>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at pp. 454 ("control signal"), 1823 ("signal")</p> |
|                 | <p><b><i>first and second control signals match:</i></b> The Court need not construe this, however, if the Court is inclined to construe this, ON Semiconductor contends that the phrase can be understood with the following constructions:</p> <p><b><i>control signals:</i></b> (separately construed above);</p> <p><b><i>match:</i></b> (separately construed below).</p> | <p><b><i>first and second control signals match:</i></b> "The data represented by the first and second control signals is the same."</p> | <p>See "control signals" and "match."</p> | <p>'594 Patent, Col. 3:30-43; 3:66-4:4; 4:27-30; 4:31-34; 4:39-42; claims 1, 5, 7, 12</p> <p>'594 Prosecution History, Response and Amendment to Office Action dated 2/2/1996, at pp. 1-3</p> <p>Academic Press Dictionary of Science and Technology (1992), at pp. 479 ("comparator," "comparator circuit"), 1323 ("match")</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at p. 105</p>              |

| Asserted Claims   | ON Semi Proposed Constructions  | Samsung Proposed Constructions   | ON Semiconductor's Support   | Samsung's Support  |
|---|---|--|--|--|
|   |   |  |  | <p>("comparator," "comparison")</p> <p>The Illustrated Dictionary of Electronics 6th Ed. (1994), at p. 127 ("comparator")</p> <p>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at p. 418 ("comparator," "comparator circuit")</p> |
|   | <b>match:</b> "corresponding, suitably associated, or harmonious"                       | <b>match:</b> see proposed construction for "first and second control signals match"                                 | <p>'594 Patent: col. 3:40-42, 3:66-4:4, 4:27-35, 4:40-45, Figs. 1-3.</p> <p>Response to Office Action dated 2/22/96, p. 2.</p> <p>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> 604 (1984).</p> <p>John Markus, <i>McGraw-Hill Electronics Dictionary</i> 328 (1994).</p> <p><i>IEEE Standard Dictionary of Electrical and Electronics Terms</i> 403 (1977).</p> | see support for "first and second control signals match"   |
| a down counter responsive to said compare signal for initializing a count value | <b>clock signal:</b> "an electrical effect that conveys clocking or timing information" | <b>clock signal:</b> "A signal consisting of a series of pulses used for synchronizing the data conversion circuit." | <p>'594 Patent: col. 1:25-32, 1:40-45, 2:7-6:12, Figs. 1-3.</p> <p>Response to Office Action dated</p>   | '594 Patent, Abstract, Col. 1:40-41; 2:21-34; 2:35-38; 3:64-65; 4:4-10; 4:36-40; 4:51-53; 4:63-65; 5:8-10;   |

| Asserted Claims   | ON Semi Proposed Constructions   | Samsung Proposed Constructions  | ON Semiconductor's Support  | Samsung's Support   |
|---|--|---|---|---|
| <p>and responsive to a clock signal for counting down to generate a transfer data signal having a symmetric duty cycle to enable transfer of said parallel input data to said register.</p> |  |   | <p>2/22/96, p. 2.</p> <p>See "signal."</p> <p>Donald L. Schilling, <i>Electronic Circuits, Discrete, and Integrated</i> 618-20 (1979).</p> <p>Nicholas L. Pappas, <i>Digital Design</i> 301-07 (1994).</p> <p>M. Morris Mano, <i>Digital Logic and Computer Design</i> 202-05 (1979).</p> <p>Edward J. McCluskey, <i>Logic Design Principles</i> 335-37 (1986).</p> <p>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> 165-66 (1984).</p> <p>Alfred W. Barber, <i>Practical Guide To Digital Integrated Circuits</i> 78-80 (1984).</p> <p><i>IEEE Standard Dictionary of Electrical and Electronics Terms</i> 104 (1977).</p> | <p>5:18-20; claims 1, 2, 7, 9</p> <p>Dictionary of Electronic Packaging, Microelectronic, &amp; Interconnection Terms (1990), at pp. 24 ("clock"), 121 ("signal")</p> <p>Academic Press Dictionary of Science and Technology (1992), at p. 447 ("clock," "clock cycle," "clock pulses")</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at pp. 92 ("clock"), 484 ("signal")</p> <p>The Illustrated Dictionary of Electronics 6th Ed. (1994), at pp. 115 ("clock"), 589 ("signal")</p> <p>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at pp. 387 ("clock"), 1823 ("signal")</p> |
|   | <p><b>transfer data signal:</b> "an electrical effect that conveys information regarding the transfer of data"</p> | <p><b>transfer data signal:</b> "A periodic signal requesting that external logic write the next set of parallel input data to the register."</p> | <p>'594 Patent: Abstract, col. 1:7-10, 1:52-60, 2:18-20, 2:62-67, 3:14-30, 3:44-6:12, Figs. 1-3.</p> <p>Response to Office Action dated</p>   | <p>'594 Patent, Abstract, Col. 1:7-10; 1:20-22; 1:33-36; 1:36-40; 2:67-3:2; 3:13-18; 3:25-30; 3:44-47; 4:16-23; 5:23-30; 6:6-12; 6:13-17;</p>   |

| Asserted Claims | ON Semi Proposed Constructions | Samsung Proposed Constructions | ON Semiconductor’s Support   | Samsung’s Support  |
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|                 |                                |                                | <p>2/22/96, p. 2.</p> <p>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> 1053-54 (1984).</p> <p><i>IEEE Standard Dictionary of Electrical and Electronics Terms</i> 732-33 (1977).</p> | <p>6:19-24; claims 1, 4, 7</p> <p>Dictionary of Electronic Packaging, Microelectronic, &amp; Interconnection Terms (1990), at p. 121 (“signal”)</p> <p>Academic Press Dictionary of Science and Technology (1992), at p. 586 (“data”)</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at pp. 132 (“data”), 484 (“signal”)</p> <p>The Illustrated Dictionary of Electronics 6th Ed. (1994), at pp. 156-57 (“data”), 589 (“signal”)</p> <p>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at pp. 517 (“data”), 1823 (“signal”)</p> |

**EXHIBIT E**

**ON Semiconductor Corp. v. Samsung Electronics Co., Ltd.**  
**(Case No. 07-449-JJF)**

**Samsung Electronics Co., Ltd., v. ON Semiconductor Corp.**  
**(Case No. 06-720-JJF)**

**Disputed Terms from U.S. Patent No. 6,362,644**

| Asserted Claims  | ON Semi Proposed Constructions                                     | Samsung Proposed Constructions   | ON Semiconductor’s Support  | Samsung’s Support   |
|--|--|--|---|---|
| 6. An integrated circuit, comprising:  | N/A  | N/A  | N/A   | N/A   |
| a semiconductor package having first and second pins respectively adapted for receiving first and second data signals, third and fourth pins for respectively receiving first and second termination signals, and a supply pin coupled for receiving a power supply voltage; | <i>termination signal</i> : “an electrical effect that terminates” | <i>termination signal</i> : “A signal that configures the circuit to receive data signals from one of several available logic families.” | ’644 Patent: Abstract, col. 1:15-5:3, Figs. 1-5.<br><br>Response to Office Action dated 9/12/01, pp. 4, 10-13.<br><br>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> 1021-22 (1984).<br><br><i>IEEE Standard Dictionary of Electrical and Electronics Terms</i> 711-12 (1977). | ’644 Patent, Col. 2:25-44; 3:8-34; 3:56-4:5; 4:19-23; 4:32-35; 4:46-56; claims 10-11, 14-15<br><br>’644 Patent Prosecution History, Response to Office Action dated 9/12/2001, at pp. 10-13<br><br>Dictionary of Electronic Packaging, Microelectronic, & Interconnection Terms (1990), at p. 121 (“signal”)<br><br>Academic Press Dictionary of Science and Technology (1992), at p. 2189 (“termination”)<br><br>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at pp. 484 (“signal”), 534 (“termination,” |



| Asserted Claims | ON Semi Proposed Constructions  | Samsung Proposed Constructions   | ON Semiconductor’s Support                   | Samsung’s Support  |
|-----------------|---|--|--|--|
|                 |   |  |  | “termination line”)<br><br>The Illustrated Dictionary of Electronics 6th Ed. (1994), at pp. 389 (“loading”), 589 (“signal”)<br><br>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at pp. 1823 (“signal”), 2004 (“termination”)   |
|                 | <p><i>third and fourth pins for respectively receiving first and second termination signals:</i> The Court need not construe this, however, if the Court is inclined to construe this, ON Semiconductor contends that the phrase can be understood with the following constructions:</p> <p><i>pins</i> (construed separately below);</p> <p><i>termination signals</i> (construed separately below).</p> | <p><i>third and fourth pins for respectively receiving first and second termination signals:</i> “Third and fourth pins that receive different termination signals (e.g., not power supply or ground pins) dependant upon the selected one of several available logic families.”</p> | <p>See “pins” and “termination signals.”</p> | <p>’644 Patent, Abstract, Col. 1:39-46; 2:20-34; 3:2-23; 3:54-64; 4:12-14; 4:46-56; 4:57-5:3</p> <p>’644 Patent Prosecution History, Response to Office Action dated 9/12/2001, at pp. 9-15</p> <p>Dictionary of Electronic Packaging, Microelectronic, &amp; Interconnection Terms (1990), at p. 69 (“impedance”)</p> <p>Academic Press Dictionary of Science and Technology (1992), at pp. 1090 (“impedance”), 1258 (“load”), 1733 (“programmable”), 2189 (“termination”)</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at pp. 309 (“load”), 534 (“termination,”</p> |

| Asserted Claims | ON Semi Proposed Constructions  | Samsung Proposed Constructions  | ON Semiconductor's Support   | Samsung's Support   |
|-----------------|---|---|--|---|
|                 |   |   |  | <p>“termination line”)</p> <p>The Illustrated Dictionary of Electronics 6th Ed. (1994), at p. 389 (“load,” “loading”)</p> <p>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at pp. 1157 (“load”), 2004 (“termination”)</p>  |
|                 | <p><b><i>pin(s)</i></b>: “a conductor configured to make an electrical connection.”</p> | <p><b><i>pin(s)</i></b>: “A small diameter metal rod used as an electrical terminal external to the semiconductor package housing.”</p> | <p>’644 Patent: Abstract, col. 2:15-5:3, Fig. 5.</p> <p>Response to Office Action dated 9/12/01, pp. 4, 10-13.</p> <p>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> 749 (1984).</p> <p>Samsung data sheets for accused products.</p> <p>JEDEC publications, including JESD 79 (DDR SDRAM Specification).</p> | <p>’644 Patent, Abstract, Col. 2:20-23; 2:43-44; 3:2-5; 3:34-35; 3:47-49; 3:51-53; 4:16-31; 4:49-54; 4:62-5:3</p> <p>’644 Patent Prosecution History, Response to Office Action dated 9/12/2001, at pp. 10, 13</p> <p>Dictionary of Electronic Packaging, Microelectronic, &amp; Interconnection Terms (1990), at p. 101 (“pin”)</p> <p>Academic Press Dictionary of Science and Technology (1992), at p. 1651 (“pin”)</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at p. 401 (“pin”)</p> <p>The Illustrated Dictionary of Electronics 6th Ed. (1994), at p.</p> |

| Asserted Claims   | ON Semi Proposed Constructions   | Samsung Proposed Constructions  | ON Semiconductor's Support   | Samsung's Support   |
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|   |  |   |  | 500 ("pin")<br><br>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at p. 1510 ("pin")  |
|   | <b><i>coupled</i></b> : "linked together."   | <b><i>coupled</i></b> : The meaning of this term requires no construction. To the extent a construction is necessary, the term should be construed as "directly connected." | '644 Patent: col. 4:38-45, Fig. 5.<br><br>Response to Office Action dated 9/12/01, pp. 4, 10-13.<br><br>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> 208-09 (1984).<br><br><i>IEEE Standard Dictionary of Electrical and Electronics Terms</i> 146-48 (1977).<br><br>John Markus, <i>McGraw-Hill Electronics Dictionary</i> 119 (1994). | '644 Patent, Col. 2:15-20; 2:63-3:2; 3:47-51; 4:32-35<br><br>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at p. 119 ("couple")  |
| and a semiconductor die housed in the semiconductor package for operating from the power supply voltage, and having a first load element coupled between the first and third pins to terminate the first data signal, and a second load element | <b><i>load element(s)</i></b> : "electrical devices capable of dissipating electrical energy." | <b><i>load element(s)</i></b> : "An impedance that provides a termination for a logic device transmission line to help reduce interconnect signal distortion."              | '644 Patent: col. 2:15-20, 2:61-3:2, 3:47-51, 4:7-12, 4:32-35, 4:46-49, Figs. 1-5.<br><br>Response to Office Action dated 9/12/01, pp. 4, 10-13.<br><br>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> 568-70 (1984).<br><br><i>IEEE Standard Dictionary of</i>   | '644 Patent, Col. 1:21-29; 2:15-20; 2:63-3:2; 3:47-51; 4:9-12; 4:32-35; claim 7<br><br>'644 Patent Prosecution History, Response to Office Action dated 9/12/2001, at pp. 10, 13<br><br>Dictionary of Electronic Packaging, Microelectronic, & Interconnection Terms (1990), at p. 69 |

| Asserted Claims   | ON Semi Proposed Constructions                     | Samsung Proposed Constructions  | ON Semiconductor's Support   | Samsung's Support  |
|---|--|---|--|--|
| coupled between the second and fourth pins to terminate the second data signal. |  |   | <i>Electrical and Electronics Terms</i> 378-80 (1977).   | <p>("impedance")</p> <p>Academic Press Dictionary of Science and Technology (1992), at pp. 1090 ("impedance"), 1258 ("load")</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at p. 309 ("load")</p> <p>The Illustrated Dictionary of Electronics 6th Ed. (1994), at p. 389 ("loading," "load")</p> <p>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at p. 1157 ("load")</p> |
|   | <b>terminate:</b> "to dissipate or absorb energy." | <b>terminate:</b> "The use of a load at the end of a transmission line or other device whose impedance is matched to that of the line." | <p>'644 Patent: Abstract, col. 1:15-5:3, Figs. 1-5.</p> <p>Response to Office Action dated 9/12/01, pp. 4, 10-13.</p> <p>Adel S. Sedra, <i>Microelectronic Circuits</i> 951-52 (2nd ed. 1987).</p> <p>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> 1021-22 (1984).</p> <p><i>IEEE Standard Dictionary of Electrical and Electronics Terms</i></p> | <p>'644 Patent, Abstract, Col. 1:15-29; 1:42-46; 2:15-16; 2:35-44; 2:63-3:2; 3:34-35; 3:47-49; 4:5-10</p> <p>Academic Press Dictionary of Science and Technology (1992), at pp. 1090 ("impedance"), 1258 ("load"), 2189 ("termination")</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at pp. 309 ("load"), 534 ("termination," "termination line")</p> <p>The Illustrated Dictionary of</p>          |

| Asserted Claims  | ON Semi Proposed Constructions | Samsung Proposed Constructions | ON Semiconductor's Support | Samsung's Support  |
|--|--------------------------------|--------------------------------|----------------------------|--|
|  |                                |                                | 711-12 (1977).             | Electronics 6th Ed. (1994), at p. 389 ("load," "loading")<br><br>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at pp. 1157 ("load"), 2004 ("termination") |
| 7. The integrated circuit of claims 6, wherein the first and second load elements are resistors.   | N/A                            | N/A                            | N/A                        | N/A  |
| 8. The integrated circuit of claim 6, wherein the semiconductor die includes a receiver circuit having first and second inputs coupled to the first and second pins, respectively. | N/A                            | N/A                            | N/A                        | N/A  |
| 9. The integrated circuit of claim 6, wherein the semiconductor die includes a driver circuit having first and second outputs coupled to the                                       | N/A                            | N/A                            | N/A                        | N/A  |

| Asserted Claims   | ON Semi Proposed Constructions  | Samsung Proposed Constructions   | ON Semiconductor's Support   | Samsung's Support   |
|---|---|--|--|---|
| first and second pins, respectively.  |   |  |  |   |
| 10. The integrated circuit of claim 6, wherein the first data signal is from a first logic family, and the third pin is coupled for receiving a first termination voltage characteristic of the first logic family. | N/A   | N/A  | N/A  | N/A   |
| 12. A method of operating an integrated circuit, comprising the steps of:<br>applying first and second logic signals to first and second pins, respectively, of a semiconductor package of the integrated circuit;  | N/A   | N/A  | N/A  | N/A   |
| and loading the first and second logic signals with first and second load elements, respectively, of the  | <i>first and second load elements are coupled to third and fourth pins of the semiconductor package to provide a programmable termination:</i> The Court need not | <i>first and second load elements are coupled to third and fourth pins of the semiconductor package to provide a programmable termination:</i> "The first and second | See "load elements," "coupled," "pins," "semiconductor package," and "programmable termination." | '644 Patent, Abstract, Col. 1:39-46; 2:20-34; 3:2-23; 3:54-64; 4:12-14; 4:46-56; 4:57-5:3<br><br>'644 Patent Prosecution History, |

| Asserted Claims  | ON Semi Proposed Constructions   | Samsung Proposed Constructions  | ON Semiconductor's Support  | Samsung's Support  |
|--|--|---|---|--|
| integrated circuit, where the first and second load elements are coupled to third and fourth pins of the semiconductor package to provide a programmable termination for the first and second logic signals. | <p>construe this, however, if the Court is inclined to construe this, ON Semiconductor contends that the phrase can be understood with the following constructions:</p> <p><b>load elements</b> (separately construed above);</p> <p><b>coupled</b> (separately construed above);</p> <p><b>pins</b> (separately construed above);</p> <p><b>semiconductor package</b> (separately construed in Exhibit A);</p> <p><b>programmable termination</b> (separately construed below).</p> | load elements are connected to the third and fourth pins that receive different signals to configure the circuit to receive data signals from one of several available logic families.” |   | <p>Response to Office Action dated 9/12/2001, at pp. 9-15</p> <p>Dictionary of Electronic Packaging, Microelectronic, &amp; Interconnection Terms (1990), at p. 69 (“impedance”)</p> <p>Academic Press Dictionary of Science and Technology (1992), at pp. 1090 (“impedance”), 1258 (“load”), 1733 (“programmable”), 2189 (“termination”)</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at pp. 309 (“load”), 534 (“termination,” “termination line”)</p> <p>The Illustrated Dictionary of Electronics 6th Ed. (1994), at p. 389 (“load,” “loading”)</p> <p>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at pp. 1157 (“load”), 2004 (“termination”)</p> |
|  | <b>programmable termination:</b> “an electrical circuit that can be configured to provide various levels or degrees for the dissipation or absorption of   | <b>programmable termination:</b> “The capability to configure the circuit to receive data signals from one of several available logic families.”  | <p>’644 Patent: Abstract, col. 1:39-41, 2:20-27, 3:2-7, 3:51-57, 4:52-62, Figs. 1-5.</p> <p>Response to Office Action dated</p> | <p>’644 Patent, Abstract, Col. 1:39-46; 2:20-44; 3:2-34; 3:54-4:5; 4:12-23; 4:32-35; 4:46-56; 4:57-5:3; claims 10-11, 14-15</p>  |

| Asserted Claims | ON Semi Proposed Constructions                                      | Samsung Proposed Constructions  | ON Semiconductor's Support  | Samsung's Support   |
|-----------------|---|---|---|---|
|                 | electrical energy”  |   | <p>9/12/01, pp. 5, 13-15.</p> <p>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> 782-85 (1984).</p> <p><i>IEEE Standard Dictionary of Electrical and Electronics Terms</i> 528-29 (1977).</p>   | <p>'644 Patent Prosecution History, Response to Office Action dated 9/12/2001, at pp. 9-15</p> <p>Academic Press Dictionary of Science and Technology (1992), at p. 2189 (“termination”)</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at pp. 534 (“termination,” “termination line”)</p> <p>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at p. 2004 (“termination”)</p>                          |
|                 | <b>loading:</b> “applying effects that dissipate electrical energy” | <b>loading:</b> “Placing an impedance at the end of a transmission line or other device to match that of the line.” | <p>'644 Patent: col. 2:15-20, 2:61-3:2, 3:47-51, 4:7-12, 4:32-35, 4:46-49, Figs. 1-5.</p> <p>Response to Office Action dated 9/12/01, pp. 5, 13-15.</p> <p>Rudolf F. Graf, <i>Modern Dictionary of Electronics</i> 568-70 (1984).</p> <p><i>IEEE Standard Dictionary of Electrical and Electronics Terms</i> 378-80 (1977).</p> | <p>'644 Patent, Abstract, Col. 1:15-29; 1:42-46; 2:15-16; 2:35-44; 2:63-3:2; 3:34-35; 3:47-49; 4:5-10</p> <p>Academic Press Dictionary of Science and Technology (1992), at pp. 1090 (“impedance”), 1258 (“load”), 2189 (“termination”)</p> <p>McGraw-Hill Electronics Dictionary 5th Ed. (1994), at pp. 309 (“load”), 534 (“termination,” “termination line”)</p> <p>The Illustrated Dictionary of Electronics 6th Ed. (1994), at p.</p> |



| Asserted Claims  | ON Semi Proposed Constructions | Samsung Proposed Constructions | ON Semiconductor’s Support | Samsung’s Support  |
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|  |                                |                                |                            | 389 (“load,” “loading”)<br><br>McGraw-Hill Dictionary of Scientific and Technical Terms 5th Ed. (1994), at pp. 1157 (“load”), 2004 (“termination”) |
| 16. The integrated logic circuit of claim 12, further comprising the step of applying a power supply voltage to a fifth pin of the semiconductor package to bias the integrated circuit. | N/A                            | N/A                            | N/A                        | N/A  |

**EXHIBIT F**

**ON Semiconductor Corp. v. Samsung Electronics Co., Ltd.**  
**(Case No. 07-449-JJF)**

**Samsung Electronics Co., Ltd., v. ON Semiconductor Corp.**  
**(Case No. 06-720-JJF)**

**Disputed Terms from U.S. Patent No. 5,252,177**

| Asserted Claims   | ON Semi Proposed Constructions  | Samsung Proposed Constructions  | ON Semiconductor’s Support                               | Samsung’s Support  |
|---|---|---|--|--|
| 1. A method for forming multilayer wiring in a semiconductor device, said semiconductor device comprising a semiconductor substrate and insulation layers and conductive layers formed over a top surface of said semiconductor substrate, said method comprising the steps of: | N/A   | N/A   | N/A  | N/A  |
| forming a contact hole by selectively etching out a region of an insulation layer disposed on a first conductive  | <i>first conductive layer:</i> “A layer of material having electro-conductive properties on which a protective oxide can form.” | <i>first conductive layer:</i> The meaning of this phrase requires no construction. To the extent a construction is necessary, the phrase should be construed as “a | ’177 Patent: col. 1:29-31, 2:50-61, and related Figures. | ’177 Patent, Abstract, Figs. 1A-B, 2A-B, Col. 1:26-31; 1:35-38; 2:50-58; claims 1, 8<br><br>Modern Dictionary of Electronics |

| Asserted Claims   | ON Semi Proposed Constructions  | Samsung Proposed Constructions   | ON Semiconductor's Support  | Samsung's Support  |
|---|---|--|---|--|
| layer using a photoresist pattern to thereby expose a top surface of said first conductive layer; |   | layer of electrically conductive material.”  |   | 6th Ed. (1984), at p. 193 (“conductive material”) <p>Microchip Fabrication Second Edition (1990), at pp. 332-33, 504 (“conductivity,” “conductor”)</p>   |
|   | <b><i>photoresist pattern:</i></b> “A light sensitive organic material formed into a predetermined pattern and that can be removed in oxygen plasma.” | <b><i>photoresist pattern:</i></b> The meaning of this phrase requires no construction. To the extent a construction is necessary, the phrase should be construed as “a layer of photoresist material that selectively exposes an underlying layer.” | ’177 Patent: col. 1:44-57, and related Figures. <p>U.S. Pat. No. 4,857,141 (filed Apr. 13, 1988) at 4:1-38.</p> <i>Comprehensive Dictionary of Electrical Engineering</i> 487 (Phillip A. Laplante ed., 1999). <p>Donard de Cogan, <i>Design and Technology of Integrated Circuits</i> 62-63 (1990).</p> <p>Badih El-Kareh, <i>Fundamentals of Semiconductor Processing Technologies</i> 201 (1995).</p> <p>John R. Hollahan, <i>Techniques and Applications of Plasma Chemistry</i> 351-52 (1974).</p> | ’177 Patent, Abstract, Col. 1:31-33; claims 1, 8 <p>McGraw-Hill Dictionary of Scientific And Technical Terms Fourth Edition (1989), at p. 1420 (“photoresist”)</p> <p>Microchip Fabrication Second Edition (1990), at p. 511 (“photoresist”)</p> <p>Modern Dictionary of Electronics 6th Ed. (1984), at p. 743 (“photoresist”)</p> |
|   | <b><i>expose a top surface of said first conductive layer:</i></b> “The uppermost surface of the unoxidized   | <b><i>expose a top surface of said first conductive layer:</i></b> The meaning of this phrase requires no construction.  | ’177 Patent: col. 1:24-44, 2:50-3:14, 3:15-22.  | ’177 Patent, Abstract, Figs. 1A-B, 2A-B, Col. 1:31-35; 1:41-62; 2:10-  |

| Asserted Claims  | ON Semi Proposed Constructions   | Samsung Proposed Constructions   | ON Semiconductor's Support   | Samsung's Support  |
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|  | conductive layer is uncovered by the etching step.”  | To the extent a construction is necessary, the phrase should be construed as “exposing a top surface of a layer of electrically conductive material [by etching].”   |  | 17; 2:19-34; 2:58-61; claims 1, 8<br><br>'177 Patent Prosecution History, Reasons For Allowance  |
| removing said photoresist pattern positioned on said insulation layer by plasma etching simultaneously forming a protective oxide layer on the exposed top surface of said first conductive layer; and | <b><i>removing said photoresist pattern positioned on said insulation layer by plasma etching simultaneously forming a protective oxide layer:</i></b> “getting rid of all the photoresist on the insulation layer by plasma etching and forming a protective oxide layer at the same time as removing the photoresist.” | <b><i>removing said photoresist pattern:</i></b> The meaning of this phrase requires no construction. To the extent a construction is necessary, the phrase should be construed as “removing photoresist.” | '177 Patent: col. 2:10-16, 1:41-2:2, 2:19-22, 2:24-35, 2:58-3:13, 3:23-38, and related Figures.<br><br>U.S. Pat. No. 4,857,141 (filed Apr. 13, 1988) at col. 4:34-5:15.<br><br>John R. Hollahan, <i>Techniques and Applications of Plasma Chemistry</i> 354-55 (1974).<br><br>Donard de Cogan, <i>Design and Technology of Integrated Circuits</i> 74-75 (1990).<br><br>U.S. Pat. No. 5,210,042 (filed Jan. 29, 1991) at col. 3:17-24.<br><br>JP3-082127 (pub. Apr. 8, 1991).<br><br>JP2-133939 (pub. May 23, 1990).<br><br>JP61-134015 (pub. June 21, 1986).<br><br>JP61-140161 (pub. June 27, 1986). | '177 Patent, abstract, Col. 1:44-57; 2:10-16; 2:19-34; 2:61-68; 3:1-13; 3:23-28; claims 1, 3, 6-10<br><br>'177 Patent Prosecution History, Reasons For Allowance<br><br>McGraw-Hill Dictionary of Scientific And Technical Terms Fourth Edition (1989), at p. 1420 (“photoresist”)<br><br>Microchip Fabrication Second Edition (1990), at p. 511 (“photoresist”)<br><br>Modern Dictionary of Electronics 6th Ed. (1984), at p. 743 (“photoresist”) |
|  | This claim is invalid for failure to   | <b><i>plasma etching:</i></b> The meaning of   | '177 Patent: col. 1:26-35, 1:44-2:2,   | '177 Patent, Abstract, Col. 1:31-33;   |

| Asserted Claims | ON Semi Proposed Constructions   | Samsung Proposed Constructions  | ON Semiconductor's Support   | Samsung's Support   |
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|                 | <p>comply with the requirements of 35 U.S.C. § 112. To the extent the Court construes this term, ON Semiconductor contends that the phrase can be understood with the following construction:</p> <p><b>plasma etching:</b> “An etching process for forming a contact hole using a plasma of ionized gases in which the ions are accelerated toward the material desired to be removed.”</p> | <p>this phrase requires no construction. To the extent a construction is necessary, the phrase should be construed as “a process of removing one or more materials using plasma.”</p> | <p>2:3-9.</p> <p>Response to Office Action dated 3/30/93 (amendment to claims).</p> <p><i>Comprehensive Dictionary of Electrical Engineering</i> 491 (Phillip A. Laplante ed. 1999).</p> <p>Donard de Cogan, <i>Design and Technology of Integrated Circuits</i> 87-88 (1990).</p> <p>Rossnagel et al., <i>Handbook of Plasma Processing Technology</i> 16-17 (1990).</p> <p>John R. Hollahan, <i>Techniques and Applications of Plasma Chemistry</i> 355-62 (1974).</p> <p>Williams et al., <i>Semiconductor Industrial Hygiene Handbook</i> 28 (1995).</p> <p>JP61-140161 (pub. June 27, 1986) at pp. 4-5 of translation.</p> <p>Burba et al., <i>Selective Dry Etching of Tungsten for VLSI Metallization</i>, J. of the Electrochemical Soc'y, Oct. 1986, at 2113-18 (1986).</p> | <p>2:3-7; 2:23-34; 2:61-68; 3:1-2; 3:23-28; claims 1, 3, 6-10</p> <p>'177 Patent Prosecution History, Reasons For Allowance</p> <p>'177 Patent Prosecution History, Response to Office Action dated 3/30/93</p> <p>Microchip Fabrication Second Edition (1990), at pp. 162-66 (“lithography”), 227-232, 507 (“etch”)</p> <p>Modern Dictionary of Electronics 6th Ed. (1984), at pp. 352 (“etching”), 754 (“plasma,” “plasma etching”)</p> |
|                 |  | <i>simultaneously form[ing] a</i>   |  | '177 Patent, Abstract, Fig. 2A, Col.  |

| Asserted Claims | ON Semi Proposed Constructions  | Samsung Proposed Constructions   | ON Semiconductor's Support   | Samsung's Support  |
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|                 |   | <b>protective oxide layer:</b> "During the process of removing photoresist through plasma ashing or etching, creating an oxide layer sufficient to protect the underlying first conductive layer." |  | 2:23-34; 2:61-3:7; 3:23-32; claims 1, 8<br><br>'177 Patent Prosecution History, Reason For Allowance<br><br>Webster's Ninth New Collegiate Dictionary (1988), at pp. 946 ("protect")<br><br>Webster's Third New International Dictionary (1986), at p. 1823 ("protective") |
|                 | <b>simultaneously forming / simultaneously form:</b> "forming at the same time" / "form at the same time"   | <b>simultaneously forming / simultaneously form:</b> "forming as part of the plasma ashing/etching also used to remove photoresist."   | See "simultaneously forming a protective oxide layer."   | '177 Patent, Abstract, Col. 2:23-34; 2:61-3:7; 3:23-32; claims 1, 8<br><br>'177 Patent Prosecution History, Reasons For Allowance<br><br>see also support for "simultaneously form[ing] a protective oxide layer"  |
|                 | <b>protective oxide layer:</b> "An oxide layer of a predetermined thickness(e.g., a thickness of 30 to 80 Å for an aluminum conductor) that is used to prevent damage to an underlying layer by preventing reaction between the wiring, an organic solvent and water in subsequent processing steps." | <b>protective oxide layer:</b> "An oxide layer sufficient to prevent damage to an underlying layer."   | Badih El-Kareh, <i>Fundamentals of Semiconductor Processing Technologies</i> 39 (1995).<br><br>John R. Hollahan, <i>Techniques and Applications of Plasma Chemistry</i> 354-55 (1974).<br><br>Donard de Cogan, <i>Design and</i> | '177 Patent, Abstract, Figs. 2A-B, Col. 2:19-23; 2:45-46; 2:61-68 3:1-8; 3:23-38; claims 1, 8<br><br>'177 Patent Prosecution History, Reasons For Allowance<br><br>Webster's Third New International Dictionary (1986), at p. 1823   |

| Asserted Claims   | ON Semi Proposed Constructions   | Samsung Proposed Constructions  | ON Semiconductor's Support  | Samsung's Support  |
|---|--|---|---|--|
|   |  |   | <p><i>Technology of Integrated Circuits</i> 74-75 (1990).</p> <p>U.S. Pat. No. 5,210,042 (filed Jan. 29, 1991) at col. 3:17-24.</p>   | <p>("protective")</p> <p>McGraw-Hill Dictionary of Scientific And Technical Terms Fourth Edition (1989), at p. 1350 ("oxide")</p> <p>see also support for "simultaneously form[ing] a protective oxide layer"</p>  |
|   | <p><b><i>exposed top surface:</i></b> "the uppermost surface of the unoxidized conductive layer is uncovered by the etching step."</p>   | <p><b><i>exposed top surface:</i></b> The meaning of this phrase requires no construction. To the extent a construction is necessary, the phrase should be construed as "the exposed top surface of a layer of electrically conductive material."</p> |   | <p>'177 Patent, Abstract, Figs. 1A-B, 2A-B, Col. 1:31-35; 1:41-62; 2:10-17; 2:19-34; 2:58-61; 3:23-28; claims 1, 8</p> <p>'177 Patent Prosecution History, Reasons For Allowance</p> <p>see also support for "expose a top surface of said first conductive layer"</p> |
| <p>removing said oxide layer before forming a second conductive layer on said exposed top surface of said first conductive layer.</p> | <p><b><i>removing said oxide layer before forming a second conductive layer on said exposed top surface of said first conductive layer:</i></b> "getting rid of the entire protective oxide layer before forming a second conductive layer such that the top surface of the first conductive layer is completely</p> | <p><b><i>removing said oxide layer:</i></b> The meaning of this phrase requires no construction. To the extent a construction is necessary, the phrase should be construed as "removing the protective oxide layer."</p>                              | <p>'177 Patent: col. 2:19-22, 3:14-22, 3:23-38, and related Figures.</p> <p>U.S. Pat. No. 4,857,141 (filed Apr. 13, 1988) at col. 5:1-15.</p> <p>JP3-082127 (pub. Apr. 8, 1991).</p> <p>JP2-133939 (pub. May 23, 1990).</p> | <p>'177 Patent, Col. 2:19-34; 3:8-13, claims 1, 5, 8, 15</p> <p>'177 Patent Prosecution History, Reasons For Allowance</p> <p>McGraw-Hill Dictionary of Scientific And Technical Terms Fourth Edition (1989), at p. 1350 ("oxide")</p>                                 |

| Asserted Claims  | ON Semi Proposed Constructions   | Samsung Proposed Constructions   | ON Semiconductor's Support  | Samsung's Support   |
|--|--|--|---|---|
|  | exposed”   |  | JP2-10856 (pub. Jan. 16, 1990).<br>JP61-140161 (pub. June 27, 1986).  |   |
| 2. The method as claimed in claim 1, wherein said first conductive layer is aluminum.  | N/A  | N/A  | N/A   | N/A   |
| 3. The method as claimed in claim 2, wherein during said plasma ashing, said semiconductor substrate is heated to a temperature of 250°C.-350°C. in a reaction room having an oxygen atmosphere at a pressure of 4-5 Torr. | <p>This claim is invalid for failure to comply with the requirements of 35 U.S.C. § 112. To the extent the Court construes this term, ON Semiconductor contends that the phrase can be understood with the following construction:</p> <p><b>plasma ashing:</b> “A process for removing an organic material, such as a photoresist in a plasma of oxygen.”</p> | <p><b>plasma ashing:</b> The meaning of this phrase requires no construction. To the extent a construction is necessary, the phrase should be construed as “a plasma etch designed to remove photoresist.”</p> | <p>’177 Patent: col. 1:41-2:2, 2:24-35, 2:58-3:13, 3:23-38, and related Figures.</p> <p>U.S. Pat. No. 4,857,141 (filed Apr. 13, 1988) at col. 4:1-33.</p> <p>Response to Office Action dated 3/30/93 (amendment to claims).</p> <p>Donard de Cogan, <i>Design and Technology of Integrated Circuits</i> 75 (1990).</p> <p>John R. Hollahan, <i>Techniques and Applications of Plasma Chemistry</i> 352-55 (1974).</p> <p>Williams et al., <i>Semiconductor Industrial Hygiene Handbook</i> 28 (1995).</p> | <p>’177 Patent, Abstract, Col. 1:49-57; 2:23-34; 2:61-68; 3:1-2; 3:23-28; claims 1, 3, 6-10</p> <p>’177 Patent Prosecution History, Reasons For Allowance</p> <p>’177 Patent Prosecution History, Response to Office Action dated 3/30/93</p> <p>U.S. Patent No. 5,228,052</p> <p>Modern Dictionary of Electronics 6th Ed. (1984), at p. 754 (“plasma”)</p> |



| Asserted Claims  | ON Semi Proposed Constructions | Samsung Proposed Constructions | ON Semiconductor's Support                                     | Samsung's Support |
|--|--------------------------------|--------------------------------|--|-------------------|
|  |                                |                                | U.S. Pat. No. 5,210,042 (filed Jan. 29, 1991) at col. 3:17-24. |                   |
| 4. The method as claimed in claim 1, wherein said oxide layer is aluminum oxide layer and has a thickness of 30Å-80 Å.                 | N/A                            | N/A                            | N/A  | N/A               |
| 5. The method as claimed in claim 1, wherein said oxide layer is removed by argon sputtering etching.                                  | N/A                            | N/A                            | N/A  | N/A               |
| 6. The method as claimed in claim 1, wherein said plasma etching is performed in 500 SCCM of oxygen gas and at a pressure of 4-5 Torr. | N/A                            | N/A                            | N/A  | N/A               |
| 7. The method as claimed in claim 6, wherein during said plasma ashing a temperature of said semiconductor substrate is 250°-350° C.   | N/A                            | N/A                            | N/A  | N/A               |

| Asserted Claims  | ON Semi Proposed Constructions        | Samsung Proposed Constructions         | ON Semiconductor's Support           | Samsung's Support                    |
|--|---------------------------------------|--|--------------------------------------|--------------------------------------|
| 8. A method for forming an electrical connection on a semiconductor substrate between a first conductive layer and a second conductive layer through an intervening insulation layer formed over said first conductive layer, said method comprising the steps of: | N/A                                   | N/A                                    | N/A                                  | N/A                                  |
| forming a photoresist pattern on said insulation layer;  | N/A                                   | N/A                                    | N/A                                  | N/A                                  |
| after forming said photoresist pattern, forming a contact hole by selectively etching out exposed regions of said insulation layer to expose a top surface of said first conductive layer;   | N/A                                   | N/A                                    | N/A                                  | N/A                                  |
| removing remaining   | <i>removing remaining photoresist</i> | <i>removing remaining photoresist:</i> | '177 Patent: col. 2:10-16, 1:41-2:2, | '177 Patent, abstract, Col. 1:44-57; |

| Asserted Claims  | ON Semi Proposed Constructions  | Samsung Proposed Constructions  | ON Semiconductor's Support   | Samsung's Support   |
|--|---|---|--|---|
| photoresist positioned on said insulation layer by plasma ashing to simultaneously form a protective oxide layer on said exposed top surface of said first conductive layer; and | <b><i>positioned on said insulation layer by plasma ashing to simultaneously form a protective oxide layer on said exposed top surface of said first conductive layer:</i></b> “getting rid of all the remaining photoresist by plasma ashing and forming a protective oxide layer at the same time as removing the photoresist.” | The meaning of this phrase requires no construction. To the extent a construction is necessary, the phrase should be construed as “removing photoresist.”   | 2:19-22, 2:24-35, 2:58-3:13, 3:23-38, and related Figures.<br><br>U.S. Pat. No. 4,857,141 (filed Apr. 13, 1988) at col. 4:34-5:15.<br><br>JP3-082127 (pub. Apr. 8, 1991).<br><br>JP2-133939 (pub. May 23, 1990).<br><br>JP61-134015 (pub. June 21, 1986).<br><br>JP61-140161 (pub. June 27, 1986). | 2:10-16; 2:19-34; 2:61-68; 3:1-13; 3:23-28; claims 1, 3, 6-10<br><br>'177 Patent Prosecution History, Reasons For Allowance<br><br>McGraw-Hill Dictionary of Scientific And Technical Terms Fourth Edition (1989), at p. 1420 (“photoresist”)<br><br>Microchip Fabrication Second Edition (1990), at p. 511 (“photoresist”)<br><br>Modern Dictionary of Electronics 6th Ed. (1984), at p. 743 (“photoresist”) |
|  | <b><i>simultaneously form:</i></b> “forming at the same time”   | <b><i>simultaneously form a protective oxide layer:</i></b> “During the process of removing photoresist through plasma ashing or etching, creating an oxide layer sufficient to protect the underlying first conductive layer.” | See “simultaneously form”/”simultaneously forming”   | See support for “simultaneously form” and “protective oxide layer”  |
| removing said oxide layer before forming said second conductive layer on said exposed top surface of said first conductive layer.  | <b><i>removing said oxide layer before forming said second conductive layer on said exposed top surface of said first conductive layer:</i></b> “getting rid of the entire protective oxide layer before forming a  | <b><i>removing said oxide layer:</i></b> The meaning of this phrase requires no construction. To the extent a construction is necessary, the phrase should be construed as “removing the protective oxide                       | '177 Patent: col. 2:19-22, 3:14-22, 3:23-38, and related Figures.<br><br>U.S. Pat. No. 4,857,141 (filed Apr. 13, 1988) at col. 5:1-15.   | '177 Patent, Col. 2:19-34; 3:8-13, claims 1, 5, 8, 15<br><br>'177 Patent Prosecution History, Reasons For Allowance<br><br>McGraw-Hill Dictionary of  |

| Asserted Claims   | ON Semi Proposed Constructions  | Samsung Proposed Constructions   | ON Semiconductor's Support   | Samsung's Support   |
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|   | second conductive layer such that the top surface of the first conductive layer is completely exposed." | layer."  | JP3-082127 (pub. Apr. 8, 1991).<br>JP2-133939 (pub. May 23, 1990).<br>JP2-10856 (pub. Jan. 16, 1990).<br>JP61-140161 (pub. June 27, 1986). | Scientific And Technical Terms Fourth Edition (1989), at p. 1350 ("oxide")  |
| 9. The method as claimed in claim 8, wherein said plasma ashing is performed in 500 SCCM of oxygen gas and at a pressure of 4-5 Torr. | N/A   | N/A  | N/A  | N/A   |
| 10. The method as claimed in claim 9, wherein during said plasma ashing a temperature of said semiconductor substrate is 250°-350° C. | N/A   | N/A  | N/A  | N/A   |
| 11. The method as claimed in claim 8, wherein said first conductive layer is mostly aluminum.   | <b>mostly aluminum:</b> "substantially pure aluminum with only trace quantities of other materials"     | <b>mostly aluminum:</b> The meaning of this phrase requires no construction. To the extent a construction is necessary, the phrase should be construed as "substantially comprised of aluminum." | '177 Patent: col. 1:19-23, 3:14-17, and related Figures.   | '177 Patent, Col. 1:18-23; 1:35-41; 1:57-62; 2:55-58; 3:14-17; claims 2, 11<br><br>'177 Patent Prosecution History, Reasons For Allowance<br><br>Webster's Ninth New Collegiate Dictionary (1988), at p. 774 ("mostly") |

| Asserted Claims   | ON Semi Proposed Constructions | Samsung Proposed Constructions | ON Semiconductor's Support | Samsung's Support |
|---|--------------------------------|--------------------------------|----------------------------|-------------------|
| 12. The method as claimed in claim 8, wherein said first conductive layer is aluminum containing approximately one percent silicon and approximately one half percent copper. | N/A                            | N/A                            | N/A                        | N/A               |
| 13. The method as claimed in claim 8, wherein said protective layer is an aluminum oxide layer.   | N/A                            | N/A                            | N/A                        | N/A               |
| 14. The method as claimed in claim 13, wherein said protective layer has a thickness of 30Å-80Å.  | N/A                            | N/A                            | N/A                        | N/A               |
| 15. The method as claimed in claim 8, wherein said protective layer is removed by argon sputtering etching.   | N/A                            | N/A                            | N/A                        | N/A               |